

In The Claims

1. (Currently amended) A supercharger, comprising:
 - a shaft having an axis of rotation;
 - a gearcase comprising a primary gear housing section and a removable gear housing section;
 - wherein the primary gear housing section and removable gear housing section meet at a location that is substantially parallel to the shaft axis of rotation;
 - wherein the primary gear housing section and removable gear housing section include semicircular recesses that provide an opening in the supercharger dimensioned to receive the shaft.
2. (Original) The supercharger of claim 1, wherein the location is substantially coplanar with the axis of rotation of a driveshaft or an impeller shaft.
3. (Currently amended) The supercharger of claim 1, wherein the location is selected from a group consisting of: a substantially flat plane formed between the primary gear housing section first and removable gear housing section second ~~supercharger housing elements~~, and a substantially flat surface formed between the primary gear housing section first and removable gear housing section second ~~supercharger housing elements~~.
4. (Canceled)

5. (Original) The supercharger of claim 1, further comprising a lubrication reservoir disposed within the supercharger.

6. (Original) The supercharger of claim 5, wherein the lubrication reservoir is separate and detachable.

7. (Original) The supercharger of claim 5, wherein the lubrication reservoir includes a heat transfer element.

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)
16. (Canceled)
17. (Canceled)
18. (Canceled)
19. (Currently amended) A supercharger comprising:
 - an impeller;
 - a drive pulley coupled to the supercharger; and
 - a disengagement device disposed between the impeller and the drive pulley;wherein the disengagement device permits selective disengagement ~~and re-~~
~~engagement~~ between the impeller and the drive pulley;
wherein the impeller is disengaged from the drive pulley during deceleration.
20. (Canceled)
21. (Previously amended) The supercharger of claim 19, wherein the disengagement device comprises a one-way clutch.

22. (Previously amended) The supercharger of claim 19, wherein the disengagement device is coupled to the drive pulley.

23. (Original) The supercharger of claim 19, wherein the disengagement device is a sprag or overrunning clutch.

24. (Currently amended) ~~The supercharger of claim 19,~~ A supercharger comprising:
an impeller;
a drive pulley coupled to the supercharger; and
a disengagement device disposed between the impeller and the drive pulley;
wherein the disengagement device permits disengagement and re-engagement
between the impeller and the drive pulley;
wherein the disengagement device comprises a speed-sensitive mechanism.

25. (Original) The supercharger of claim 19, wherein the disengagement device comprises a centrifugal clutch.

26. (Currently amended) ~~The supercharger of claim 19,~~ A supercharger comprising:
an impeller;
a drive pulley coupled to the supercharger; and
a disengagement device disposed between the impeller and the drive pulley;

wherein the disengagement device permits disengagement and re-engagement between the impeller and the drive pulley;

wherein the disengagement device comprises both a speed-sensitive mechanism and an over-running mechanism.

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Canceled)

31. (Withdrawn) An impeller, comprising:

a first set of blades having a first height;

a second set of blades having a second height; and

a third set of blades having a third height;

wherein the first height is greater than the second height, and the second height is greater than the third height.

32. (Withdrawn) The impeller of claim 31, wherein the blades are disposed at substantially equal circumferential intervals about the impeller.

33. (Withdrawn) The impeller of claim 31, wherein the impeller further comprises a fourth set of blades having a fourth height, wherein the third height is greater than the fourth height.

34. (Withdrawn) The impeller of claim 31, wherein the impeller comprises an inlet region having a blade count that is less than the blade count of an outlet region.

35. (Withdrawn) The impeller of claim 34, wherein the blade count comprises a number of blades having a blade portion that extends into an impeller region.

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)